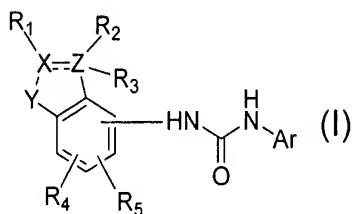


**Amendments to the Claims**

1-10. (Cancelled)

11. (New) A compound of Formula (I) or a pharmaceutically acceptable salt thereof:

Formula (I)



wherein Ar is a nitrogen-containing heteroaromatic ring group selected from the group consisting of a pyridyl group, a pyrimidinyl group, a pyrazinyl group, a pyridazinyl group, a thiazolyl group, an isothiazolyl group, an oxazolyl group, an isoxazolyl group, a pyrazolyl group, a pyrrolyl group, an imidazolyl group, an indolyl group, an isoindolyl group, a quinolyl group, an isoquinolyl group, a benzothiazolyl group, and a benzoxazolyl group,

wherein:

(1) Ar is optionally substituted with one to three of the same or different substituent(s) selected from (1-1) and (1-2):

(1-1) a substituent selected from the group consisting of a lower alkyl group, a hydroxyl group, a cyano group, halogen atoms, a nitro group, a carboxyl group, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxy carbonyl group, lower alkoxy carbonylamino group, a lower alkoxy carbonylamino lower alkyl group, a lower alkyl carbamoyl group, a di-lower

alkylcarbamoyl group, a carbamoyloxy group, a lower alkylcarbamoyloxy group, a di-lower alkylcarbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group and a lower alkoxyimino group,

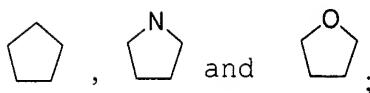
and

(1-2) a substituent which is a group represented by the formula  $Y_1-W_1-Y_2-R_p$ , wherein:

$R_p$  is:

- (i) a hydrogen atom;
- (ii) a lower alkyl group, a lower alkenyl group or a lower alkynyl group which is optionally substituted with one to three of said substituent(s) defined in (1-1) above; or
- (iii) a cyclo lower alkyl group, an aryl group, a heteroaromatic ring group selected from the group consisting of an imidazolyl group, an isoxazolyl group, an isoquinolyl group, an isoindolyl group, an indazolyl group, an indolyl group, an indolizinyl group, an isothiazolyl group, an ethylenedioxophenyl group, an oxazolyl group, a pyridyl group, a pyrazinyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazolyl group, a quinoxalinyl group, a quinolyl group, a dihydroisoindolyl group, a dihydroindolyl group, a thionaphthenyl group, a naphthyridinyl group, a phenazinyl group, a benzoimidazolyl group, a

benzoxazolyl group, a benzothiazolyl group, a benzotriazolyl group, a benzofuranyl group, a thiazolyl group, a thiadiazolyl group, a thienyl group, a pyrrolyl group, a furyl group, a furazanyl group, a triazolyl group, a benzodioxanyl group and a methylenedioxyphenyl group, or an aliphatic heterocyclic group selected from the group consisting of an isoxazolinyl group, an isoxazolidinyl group, a tetrahydropyridyl group, an imidazolidinyl group, a tetrahydrofuran group, a tetrahydropyranyl group, a piperazinyl group, a piperidinyl group, a pyrrolidinyl group, pyrrolinyl group, a morpholino group, a tetrahydroquinolinyl group and a tetrahydroisoquinolinyl group; each of which cyclic groups is optionally substituted with one to three of said substituent(s) as defined in (1-1) above, or furthermore, has optionally a bicyclic or tricyclic fused ring of a partial structure selected from the group consisting of:



$W_1$  is a single bond, an oxygen atom, a sulfur atom,  $\text{SO}$ ,  $\text{SO}_2$ ,  $\text{NR}_q$ ,  $\text{SO}_2\text{NR}_q$ ,  $\text{N}(\text{R}_q)\text{SO}_2\text{NR}_r$ ,  $\text{N}(\text{R}_q)\text{SO}_2$ ,  $\text{CH}(\text{OR}_q)$ ,  $\text{CONR}_q$ ,  $\text{N}(\text{R}_q)\text{CO}$ ,  $\text{N}(\text{R}_q)\text{CONR}_r$ ,  $\text{N}(\text{R}_q)\text{COO}$ ,  $\text{N}(\text{R}_q)\text{CSO}$ ,  $\text{N}(\text{R}_q)\text{COS}$ ,  $\text{C}(\text{R}_q)=\text{CR}_r$ ,  $\text{C}\equiv\text{C}$ ,  $\text{CO}$ ,  $\text{CS}$ ,  $\text{OC}(\text{O})$ ,  $\text{OC}(\text{O})\text{NR}_q$ ,  $\text{OC}(\text{S})\text{NR}_q$ ,  $\text{SC}(\text{O})$ ,  $\text{SC}(\text{O})\text{NR}_q$  or  $\text{C}(\text{O})\text{O}$ , wherein:

$R_q$  and  $R_r$  are each independently:

(iv) a hydrogen atom, or

(v) a substituent selected from the group consisting of a lower alkyl group, a cyclo lower alkyl group, a hydroxyl group, a cyano group, halogen atom, a nitro group, a carboxyl group, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy

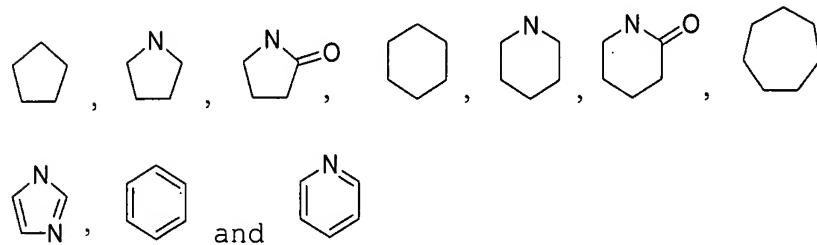
group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, a lower alkoxy group, a lower alkoxycarbonyl group, a lower alkoxycarbonylamino group, a lower alkoxycarbonylamino lower alkyl group, a lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyloxy group, a lower alkylcarbamoyloxy group, di-lower alkylcarbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group and a lower alkoxyimino group, or

(vi) a lower alkyl group, an aryl group or an aralkyl group which is optionally substituted with one to three of said substituent(s) as defined in (v);

Y<sub>1</sub> and Y<sub>2</sub> are each, the same or different, a single bond or a straight-chain or branched lower alkylene group which optionally has said bicyclic or tricyclic fused ring;

or,

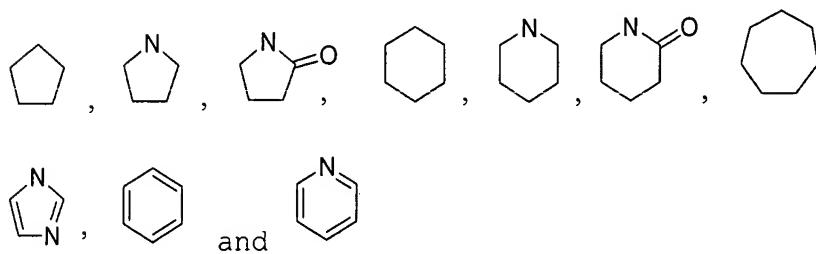
(2) Ar is optionally fused to a five- to seven-membered ring selected from the group consisting of:



which ring is formed by two adjacent carbon atoms of said nitrogen-containing heteroaromatic cyclic group, which carbon atoms are each bonded to a ring-substituent through a carbon atom, an oxygen atom and/or a nitrogen atom of said ring-substituent, said ring-substituent being selected from the group consisting of a lower alkyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxycarbonyl group, lower alkoxycarbonylamino group, a lower alkoxycarbonylamino lower alkyl group, a lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyloxy group, a lower alkylcarbamoyloxy group, di-lower alkylcarbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, and a lower alkanoylamidino lower alkyl group;

or,

(3) Ar is optionally fused to a five- to seven-membered ring selected from the group consisting of:



which ring is formed by two adjacent carbon atoms of said nitrogen-containing heteroaromatic cyclic group, which carbon atoms are each bonded to a ring-substituent through a carbon atom, an oxygen

atom and/or a nitrogen atom of said ring-substituent, said ring-substituent being represented by the formula  $Y_1-W_1-Y_2-R_p$ , wherein  $Y_1$ ,  $W_1$ ,  $Y_2$  and  $R_p$  have the same meanings as stated above;

$X$  and  $Z$  are each, the same or different, a carbon atom or a nitrogen atom, or being taken together with  $R_1$  or  $R_2$  and/or  $R_3$  which may exist on  $X$  or  $Z$ , form a CH or a nitrogen atom;

$Y$  is CO, SO or  $SO_2$ ;

$R_1$  is:

(a) a hydrogen atom, or

(b) a substituent represented by a formula  $Y_3-W_2-Y_4-R_s$ , wherein:

$R_s$  is a hydrogen atom; a lower alkyl group, a lower alkenyl group, a lower alkynyl group, a cyclo lower alkyl group, an aryl group; a heteroaromatic ring group selected from the group consisting of an imidazolyl group, an isoxazolyl group, an isoquinolyl group, an isoindolyl group, an indazolyl group, an indolyl group, an indolizinyl group, an isothiazolyl group, an ethylenedioxophenyl group, an oxazolyl group, a pyridyl group, a pyrazinyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazolyl group, a quinoxalinyl group, a quinolyl group, a dihydroisoindolyl group, a dihydroindolyl group, a thionaphthalenyl group, a naphthyridinyl group, a phenazinyl group, a benzoimidazolyl group, a benzoxazolyl group, a benzothiazolyl group, a benzotriazolyl group, a benzofuranyl group, a thiazolyl group, a thiadiazolyl group, a thieryl group, a pyrrolyl group, a furyl group, a furazanyl group, a triazolyl group, a benzodioxanyl group and a methylenedioxophenyl group; or an aliphatic heterocyclic group selected from the group consisting of an isoxazolinyl group, an isoxazolidinyl group, a tetrahydropyridyl group, an imidazolidinyl group, a tetrahydrofuranyl group, a piperazinyl group, a piperidinyl group, a pyrrolidinyl group, pyrrolinyl group, a morpholino group, a tetrahydroquinolinyl group and a

tetrahydroisoquinolinyl group; each of which is optionally substituted with one to three of said substituent(s) as defined in (1-1) above;

W<sub>2</sub> is a single bond, an oxygen atom, a sulfur atom, SO, SO<sub>2</sub>, NR<sub>t</sub>, SO<sub>2</sub>NR<sub>t</sub>, N(R<sub>t</sub>)SO<sub>2</sub>NR<sub>u</sub>, N(R<sub>t</sub>)SO<sub>2</sub>, CH(OR<sub>t</sub>), CONR<sub>t</sub>, N(R<sub>t</sub>)CO, N(R<sub>t</sub>)CONR<sub>u</sub>, N(R<sub>t</sub>)COO, N(R<sub>t</sub>)CSO, N(R<sub>t</sub>)COS, C(R<sub>v</sub>)=CR<sub>r</sub>, C≡C, CO, CS, OC(O), OC(O)NR<sub>t</sub>, OC(S)NR<sub>t</sub>, SC(O), SC(O)NR<sub>t</sub> or C(O)O, wherein:

R<sub>t</sub> and R<sub>u</sub> are each independently:

(vii) a hydrogen atom, or

(viii) a substituent selected from the group consisting of a lower alkyl group, a hydroxy group, a cyano group, halogen atom, a nitro group, a carboxyl group, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, a lower alkoxy group, a lower alkoxy carbonyl group, a lower alkoxy carbonylamino group, a lower alkoxy carbonylamino lower alkyl group, a lower alkyl carbamoyl group, a di-lower alkyl carbamoyl group, a carbamoyloxy group, a lower alkyl carbamoyloxy group, di-lower alkyl carbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group and a lower alkoxyimino group or

(ix) a lower alkyl group, an aryl group or an aralkyl group which is optionally

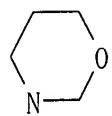
substituted with one to three of said substituent(s) as defined in (1-1) above;

Y<sub>3</sub> and Y<sub>4</sub> are each, the same or different, a single bond or a straight-chain or branched lower alkylene group, or

(c) a lower alkyl group which is optionally substituted with one to three of the same or different substituent(s) selected from the group consisting of a lower alkyl group, a hydroxyl group, a cyano group, halogen atoms, a nitro group, a carboxyl group, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxy carbonyl group, lower alkoxy carbonyl amino group, a lower alkoxy carbonyl amino lower alkyl group, a lower alkyl carbamoyl group, a di-lower alkyl carbamoyl group, a carbamoyloxy group, a lower alkyl carbamoyloxy group, di-lower alkyl carbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonyl amino group, a hydroxyimino group and a lower alkoxyimino group; or a substituent represented by the formula Y<sub>3</sub>-W<sub>2</sub>-Y<sub>4</sub>-R<sub>s</sub>, wherein: R<sub>s</sub>, W<sub>2</sub>, Y<sub>3</sub> and Y<sub>4</sub> have the same meanings as stated above, or

(d) R<sub>1</sub> forms a nitrogen atom together with X;

R<sub>2</sub> and R<sub>3</sub> form, together with Z, R<sub>1</sub> and X, on which they are bonded, a saturated six-membered cyclic group of the formula:



which optionally contains one or more kinds of hetero atom(s) selected from the group consisting of a nitrogen atom, an oxygen atom and a sulfur atom; and which is fused with any of a cyclo lower alkyl group, an aryl group, a heteroaromatic ring group selected from the group consisting of an imidazolyl group, an isoxazolyl group, an isoquinolyl group, an isoindolyl group, an indazolyl group, an indolyl group, an indolydanyl group, an isothiazolyl group, an ethylenedioxyphenyl group, an oxazolyl group, a pyridyl group, a pyrazinyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazolyl group, a quinoxalinyl group, a quinolyl group, a dihydroisoindolyl group, a dihydroindolyl group, a thionaphthenyl group, a naphthyridinyl group, a phenazinyl group, a benzoimidazolyl group, a benzoxazolyl group, a benzothiazolyl group, a benzotriazolyl group, a benzofuranyl group, a thiazolyl group, a thiadiazolyl group, a thienyl group, a pyrrolyl group, a furyl group, a furazanyl group, a triazolyl group, a benzodioxanyl group and a methylenedioxyphenyl group, or an aliphatic heterocyclic group(s) selected from the group consisting of an isoxazolinyl group, an isoxazolidinyl group, a tetrahydropyridyl group, an imidazolidinyl group, a tetrahydrofuran group, a tetrahydropyranyl group, a piperazinyl group, a piperidinyl group, a pyrrolidinyl group, a pyrrolinyl group, a morpholino group, a tetrahydroquinolinyl group and a tetrahydroisoquinolinyl group; which groups may be substituted with one to three of the same or different substituent(s) selected from the group consisting of a lower alkyl group, a spiro cyclo lower alkyl group which may be substituted, a hydroxyl group, a cyano group, halogen atoms, a nitro group, a carboxyl group, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxy carbonyl group, lower alkoxy carbonylamino group, a lower alkoxy carbonylamino lower alkyl group, a lower alkyl carbamoyl group, a di-lower alkyl carbamoyl group, a carbamoyloxy group, a lower alkyl carbamoyloxy group, di-lower alkyl carbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a

di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group and a lower alkoxyimino group; or a substituent represented by the formula  $Y_1-W_1-Y_2-R_p$ , wherein  $R_p$ ,  $W_1$ ,  $Y_1$  and  $Y_2$  have the same meanings as stated above,

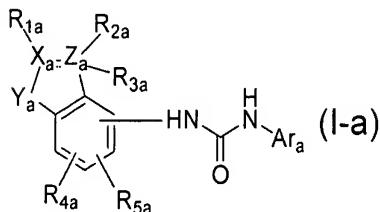
provided that when either  $R_2$  or  $R_3$  does not form together with  $Z$ ,  $R_1$  and  $X$ , a saturated or unsaturated five- to eight-membered cyclic group,  $Ar$  is not a substituted thiazolyl group;

$R_4$  and  $R_5$  are each, the same or different, a hydrogen atom, halogen atom, a hydroxy group, an amino group, or a substituent represented by the formula  $Y_3-W_2-Y_4-R_s$ , wherein  $R_s$ ,  $W_2$ ,  $Y_3$  and  $Y_4$  have the same meanings as stated above, or any of a lower alkyl group, an aryl group or an aralkyl group which is optionally substituted with one to three of the same or different substituent(s) selected from the group consisting of a lower alkyl group, a cyano group, a nitro group, a carboxyl group, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxy carbonyl group, lower alkoxy carbonyl amino group, a lower alkoxy carbonyl amino lower alkyl group, a lower alkyl carbamoyl group, a di-lower alkyl carbamoyl group, a carbamoyloxy group, a lower alkyl carbamoyloxy group, di-lower alkyl carbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group and a lower alkoxyimino group, or the group represented by the formula  $Y_3-W_2-Y_4-R_s$ , wherein  $R_s$ ,  $W_2$ ,  $Y_3$  and  $Y_4$  have the same meanings as stated above; and

the formula  $\text{---}$  represents either a single bond or a double bond.

12. (New) The compound according to claim 11, having a structure of Formula (I-a), or a pharmaceutically acceptable salt thereof:

Formula (I-a)



wherein  $\text{Ar}_a$  is a nitrogen-containing heteroaromatic ring group selected from the group consisting of a pyridyl group, a pyrimidinyl group, a pyrazinyl group, a pyridazinyl group, a thiazolyl group, a pyrazolyl group, and an imidazolyl group;

wherein:

(1')  $\text{Ar}$  is optionally substituted with one to three of the same or different substituent(s) selected from (1'-1) and (1'-2):

(1'-1) a substituent selected from the group consisting of a lower alkyl group, a hydroxyl group, halogen atom, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a halo lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxy carbonyl group, lower alkoxy carbonylamino group, a lower alkoxy carbonylamino lower alkyl group, a lower alkyl carbamoyl group, a lower alkyl carbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a lower alkanoylamino group, an aroylamino group, and a lower alkylsulfonylamino group,

and

(1'-2) a substituent which is a group represented by the formula  $Y_{1a}-W_{1a}-Y_{2a}-R_{pa}$ , wherein:

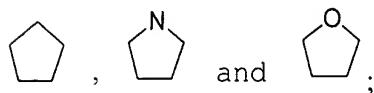
$R_{pa}$  is:

(i) a hydrogen atom, or

(ii) a lower alkyl group, a lower alkenyl group or a lower alkynyl group which is optionally substituted with one to three of said substituent(s) as defined in (1'-1) above; or

(iii) a cyclo lower alkyl group, an aryl group, a heteroaromatic ring group selected from the group consisting of an imidazolyl group, an isoxazolyl group, an isoquinolyl group, an indolyl group, an ethylenedioxophenyl group, a pyridyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazolyl group, a quinolyl group, a benzoimidazolyl group, a thiazolyl group, a thienyl group, and a triazolyl group, or

an aliphatic heterocyclic group(s) selected from the group consisting of an isoxazolinyl group, an isoxazolidinyl group, a tetrahydropyridyl group, a tetrahydrofuran group, a tetrahydropyranyl group, a piperazinyl group, a piperidinyl group, a pyrrolidinyl group, a morpholino group, and a tetrahydroisoquinolinyl group; each of which cyclic groups is optionally substituted with one to three of said substituents as defined in (1'-1) above, or furthermore, optionally has a bicyclic or tricyclic fused ring which contains a partial structure selected from the group consisting of:



$W_{1a}$  is an oxygen atom, a sulfur atom,  $NR_{qa}$ ,  $SO_2NR_{qa}$ ,  $N(R_{qa})SO_2$ ,  $CONR_{qa}$ ,  $N(R_{qa})CO$ ,

$N(R_{qa})COO$ ,  $C(R_{qa})=CR_{ra}$ ,  $OC(O)$ ,  $OC(O)NR_{qa}$ , or  $C(O)O$ , wherein:

$R_{qa}$  and  $R_{ra}$  are each independently:

(iv) a hydrogen atom, or

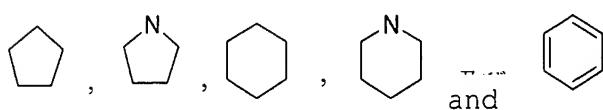
(v) a substituent selected from the group consisting of a lower alkyl group, a cyclo lower alkyl group, a hydroxyl group, halogen atoms, a formyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a halo lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxy carbonyl group, a lower alkoxy carbonylamino group, a lower alkoxy carbonylamino lower alkyl group, a lower alkylcarbamoyl group, a lower alkylcarbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a lower alkanoylamino group, an aroylamino group, and a lower alkylsulfonylamino group; or

(vi) a lower alkyl group, an aryl group or an aralkyl group which is optionally substituted with one to three of said substituent(s) as defined in (v);

$Y_{1a}$  and  $Y_{2a}$  are each, the same or different, a single bond or a straight-chain or branched lower alkylene group which is optionally a bicyclic or tricyclic fused ring;

or,

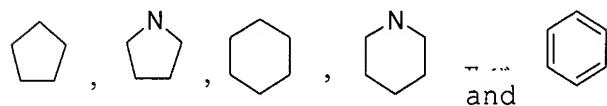
(2') Ar is optionally fused to a five- to six-membered ring selected from the group consisting of:



which ring is formed from two adjacent carbon atoms on said nitrogen-containing heteroaromatic ring group, which carbon atoms are each bonded to said ring-substituent through a carbon atom, an oxygen atom and/or a nitrogen atom of said ring-substituent, said ring-substituent being selected from the group consisting of a lower alkyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a halo lower alkyl group, a carbamoyl lower alkyl group, a lower alkoxy group, a lower alcoxycarbonyl group, a lower alcoxycarbonylamino group, a lower alcoxycarbonylamino lower alkyl group, a lower alkylcarbamoyl group, a lower alkylcarbamoyloxy group, a lower alkylamino group, di-lower alkylamino group, an amino lower alkyl group, a lower alkylamino lower alkyl group, di-lower alkylamino lower alkyl group, a lower alkanoylamino group, and an aroylamino group;

or,

(3') Ar is optionally fused to a five- to six-membered ring selected from the group consisting of:



which ring is formed by two adjacent carbon atoms of said nitrogen-containing heteroaromatic ring group, which carbon atoms are each bonded to the ring-substituent through a carbon atom, an oxygen atom and/or a nitrogen atom of said ring-substituent, said ring-substituent being represented by the formula  $Y_{1a}-W_{1a}-Y_{2a}-R_{pa}$ , wherein  $Y_{1a}$ ,  $W_{1a}$ ,  $Y_{2a}$  and  $R_{pa}$  have the same meanings as stated above;

$X_a$  and  $Z_a$  are each, the same or different, a carbon atom or a nitrogen atom, or optionally being taken together with  $R_{1a}$  or  $R_{2a}$  and/or  $R_{3a}$  on them form a CH or a nitrogen atom;

$Y_a$  is a CO, SO or  $SO_2$ ;

$R_{1a}$  is:

(a) a hydrogen atom, or

(b) a substituent represented by a formula  $Y_{3a}-W_{2a}-Y_{4a}-R_{sa}$ , wherein:

$R_{sa}$  is a hydrogen atom; a lower alkyl group, a lower alkenyl group, a cyclo lower alkyl group, an aryl group; or a heteroaromatic ring group selected from the group consisting of an indolyl group, or an aliphatic heterocyclic group selected from the group consisting of a tetrahydropyridyl group, a piperadinyl group, a piperidinyl group, a pyrrolidiny group and a morpholino group; each of which groups is optionally substituted with one to three of the same or different said substituent(s) as defined in (1'-1) above;

$W_{2a}$  is a single bond ,  $NR_{ta}$ ,  $CH(OR_{ta})$ ,  $CONR_{ta}$ ,  $N(R_{ta})CO$ ,  $N(R_{ta})COO$ ,  $OC(O)NR_{ta}$  or  $C(O)O$ , wherein:

$R_{ta}$  is a hydrogen atom, a lower alkyl group, an aryl group or an aralkyl group which is optionally substituted with one to three of said substituent(s) as defined in (1'-1) above;

$Y_{3a}$  and  $Y_{4a}$  are each, the same or different, a single bond, or a straight-chain or branched lower alkylene group; or

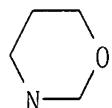
(c) a lower alkyl group which is optionally substituted with one to three substituent(s) selected from the group consisting of a lower alkyl group, a hydroxyl group, a carbamoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a lower alkoxy group, a lower alkoxycarbonyl group, a lower alkoxy carbonylamino group, a lower alkoxy carbonylamino lower alkyl group, a lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyloxy group,

a lower alkylcarbamoyloxy group, a lower alkylamino group, a di-lower alkylamino group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a lower alkanoylamino group, and an aroylamino group; or a substituent represented by the formula  $Y_{3a}-W_{2a}-Y_{4a}-R_{sa}$ ,

wherein  $R_{sa}$ ,  $W_{2a}$ ,  $Y_{3a}$  and  $Y_{4a}$  have the same meanings as stated above, or

(d)  $R_{1a}$  forms a nitrogen atom, together with  $X$ ;

$R_{2a}$  and  $R_{3a}$  form, together with  $Z_a$  on which they stand,  $R_{1a}$  and  $X_a$ , a saturated six-membered cyclic group of the formula:



which optionally contains one or more kinds of hetero atom(s), and which may be substituted with one to three of the same or different substituent(s) selected both from the group consisting of a lower alkyl group, a spiro cyclo lower alkyl group which is optionally substituted, a hydroxy group, a hydroxy lower alkyl group, lower alkoxy group, a lower alkoxycarbonyl group, a lower alkoxycarbonylamino group, a lower alkoxycarbonylamino lower alkyl group, a lower alkylcarbamoyl group, a lower alkylcarbamoyloxy group, a lower alkylamino group, a di-lower alkylamino group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a lower alkanoylamino group and an aroylamino group, and the group represented by the formula  $Y_{1a}-W_{1a}-Y_{2a}-R_{pa}$ , wherein  $R_{pa}$ ,  $W_{1a}$ ,  $Y_{1a}$  and  $Y_{2a}$  have the same meanings as stated above, or furthermore, which is fused with a cyclo lower alkyl group, an aryl group, a heteroaromatic ring group selected from a group of a pyridyl group and a pyrazolyl group, and an aliphatic heterocyclic group selected from a group of piperidinyl group and a pyrrolidinyl group,

provided that when either  $R_{2a}$  or  $R_{3a}$  does not form together with  $Z_a$ ,  $R_{1a}$  and  $X_a$ , a saturated or

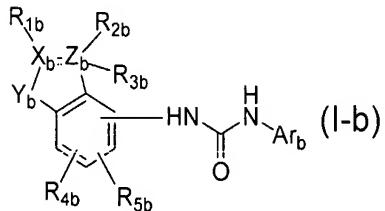
unsaturated five- to eight-membered cyclic group, Ar is not a substituted thiazolyl group;

R<sub>4a</sub> and R<sub>5a</sub> are each, the same or different, a hydrogen atom or a substituent consisting of halogen atom, a hydroxy group, an amino group, or a group represented by the formula Y<sub>3a</sub>-W<sub>2a</sub>-Y<sub>4a</sub>-R<sub>sa</sub>, wherein: R<sub>sa</sub>, W<sub>2a</sub>, Y<sub>3a</sub> and Y<sub>4a</sub> have the same meanings as stated above, or a lower alkyl group, an aryl group or an aralkyl group, each of which is optionally substituted with one to three of the same or different substituent(s) selected from the group consisting of a lower alkyl group, a hydroxy lower alkyl group, a halo lower alkyl group, a lower alkoxy carbonylamino group, a lower alkoxy carbonyl amino lower alkyl group, a lower alkyl carbamoyl group, a lower alkyl amino group, a lower alkyl amino lower alkyl group, a lower alkanoyl amino group, and an aroyl amino group, or a group represented by the formula Y<sub>3a</sub>-W<sub>2a</sub>-Y<sub>4a</sub>-R<sub>sa</sub>, wherein R<sub>sa</sub>, W<sub>2a</sub>, Y<sub>3a</sub> and Y<sub>4a</sub> have the same meanings as stated above; and

the formula  $\text{---}$  is a single bond or a double bond.

13. (New) The compound according to claim 11, having a structure of Formula (I-b) or a pharmaceutically acceptable salt thereof,

Formula (I-b)



wherein Ar<sub>b</sub> is a nitrogen-containing heteroaromatic ring group selected from the group comprising a pyridyl group and a pyrazolyl group;

wherein:

(1'') Ar<sub>b</sub> is optionally substituted with one to three substituent(s) selected from (1''-1) and (1''-2):

(1''-1) a substituent selected from the group consisting of a hydroxy group, halogen atoms, a lower alkanoyloxy group, a hydroxy lower alkyl group, a lower alkoxy group, a lower alkoxycarbonyl group, an amino group, and a lower alkylamino lower alkyl group,

and

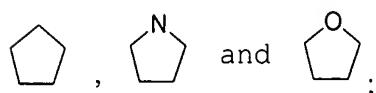
(1''-2) a substituent which is a group represented by a formula Y<sub>1b</sub>-W<sub>1b</sub>-Y<sub>2b</sub>-R<sub>pb</sub>, wherein:

R<sub>pb</sub> is:

(i) a hydrogen atom, or

(ii) a lower alkyl group, a lower alkenyl group or a lower alkynyl group which is optionally substituted with one to three of said substituent(s) as defined in (1''-1) above; or

(iii) a cyclo lower alkyl group, an aryl group, a heteroaromatic ring group selected from the group consisting of a pyridyl group and a pyrazolyl group, or an aliphatic heterocyclic group selected from the group consisting of isoxazolinyl group, a tetrahydropyridyl group, a piperadinyll group, a piperidinyl group, a pyrrolidinyl group, a morpholino group and a tetrahydroisoquinolinyl group; each of which cyclic substituent groups is optionally substituted with one to three of said substituent(s) as defined in (1''-1) above, or furthermore, optionally has a bicyclic or tricyclic fused ring, which contains the partial structure of which is selected from a group consisting of:



$W_{1b}$  is  $NR_{qb}$ ,  $N(R_{qb})SO_2$ ,  $CONR_{qb}$ ,  $N(R_{qb})CO$ ,  $N(R_{qb})COO$ ,  $OC(O)$ , or  $C(O)O$ , wherein:

$R_{qb}$  and  $R_{rb}$  are independently:

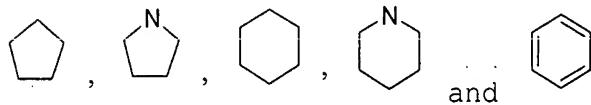
(iv) a hydrogen atom, or

(v) a substituent selected from the group consisting of a hydroxy group, halogen atoms, a cyclo lower alkyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a lower alkoxy group, a lower alkoxy carbonyl group, an amino group, and a lower alkylamino lower alkyl group; or a lower alkyl group, an aryl group or an aralkyl group, which is optionally substituted with one to three of said substituent(s);

$Y_{1b}$  and  $Y_{2b}$  are each, the same or different, a single bond or a straight-chain or branched lower alkylene group which may have a said bicyclic or tricyclic fused ring;

or

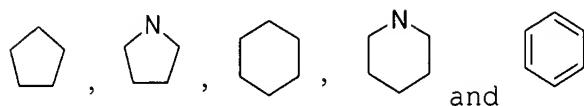
(2'')  $Ar_b$  is optionally fused to a five- or six-membered ring selected from a group consisting of:



which ring is formed by two adjacent carbon atoms of said nitrogen-containing heteroaromatic ring group, which carbon atoms are each bonded to the ring-substituent through a carbon atom, an oxygen atom and/or a nitrogen atom of said ring-substituent, said ring-substituent being selected from the group consisting of a lower alkanoyloxy group, a hydroxy lower alkyl group, a lower alkoxy group, a lower alkoxy carbonyl group and a lower alkylamino lower alkyl group;

or,

(3'') Ar<sub>b</sub> is optionally fused to a five- or six-membered ring selected from a group consisting of:



which ring is formed by two adjacent carbon atoms of said nitrogen-containing heteroaromatic ring group, which carbon atoms are each bonded to the ring-substituent through a carbon atom, an oxygen atom and/or a nitrogen atom of said ring-substituent, said ring-substituent being represented by the formula Y<sub>1b</sub>-W<sub>1b</sub>-Y<sub>2b</sub>-R<sub>pb</sub>, wherein Y<sub>1b</sub>, W<sub>1b</sub>, Y<sub>2b</sub> and R<sub>pb</sub> have the same meanings as stated above;

X<sub>b</sub> and Z<sub>b</sub> are each, the same or different, a carbon atom or a nitrogen atom, or X<sub>b</sub> and Z<sub>b</sub> form a CH or a nitrogen atom, being taken together with R<sub>1b</sub> or R<sub>2b</sub> and/or R<sub>3b</sub> on them;

Y<sub>b</sub> is a CO, SO or SO<sub>2</sub>;

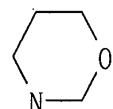
R<sub>1b</sub> is a hydrogen atom or a substituent represented by a formula Y<sub>3b</sub>-W<sub>2b</sub>-Y<sub>4b</sub>-R<sub>sb</sub>, wherein R<sub>sb</sub> is a hydrogen atom or a lower alkyl group, a cyclo lower alkyl group, and an aryl group, which is optionally substituted with one to three of said substituent(s);

W<sub>2b</sub> is a single bond, N(R<sub>1b</sub>)COO or C(O)O, wherein R<sub>1b</sub> is a hydrogen atom or a lower alkyl group, an aryl group or an aralkyl group which is optionally substituted with one to three of said substituent(s);

Y<sub>3b</sub> and Y<sub>4b</sub> are each, the same or different, a single bond, or a straight-chain or branched lower

alkylene group, or a lower alkyl group which is optionally substituted with one to three of the same or different substituent(s) selected from a set of groups consisting of a hydroxy lower alkyl group and a group represented by the formula  $Y_{3b}-W_{2b}-Y_{4b}-R_{sb}$ , wherein  $R_{sb}$ ,  $W_{2b}$ ,  $Y_{3b}$  and  $Y_{4b}$  have the same meanings as stated above, or form a nitrogen atom, together with X;

$R_{2b}$  and  $R_{3b}$  form, together with  $Z_b$  on which they stand,  $R_{1b}$  and  $X_b$ , a saturated six-membered cyclic group of the formula:



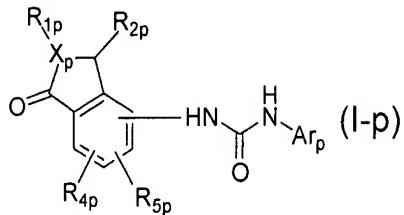
which optionally has one or more kinds of hetero atom(s) selected from a group of a nitrogen atom, an oxygen atom and a sulfur atom, and which is fused with a cyclo lower alkyl group, an aryl group and an aliphatic heterocyclic group selected from a group of a piperidinyl group and a pyrrolidinyl group, all of which cyclic groups is optionally substituted with one to three of the same or different substituent(s) selected from the group consisting of a lower alkyl group, a spiro cyclo lower alkyl group which is optionally substituted, a hydroxy lower alkyl group and a lower alkoxy carbonyl group, or a group represented by the formula  $Y_{1b}-W_{1b}-Y_{2b}-R_{pb}$ , wherein  $R_{pb}$ ,  $W_{1b}$ ,  $Y_{1b}$  and  $Y_{2b}$  have the same meanings as stated above;

$R_{4b}$  and  $R_{5b}$  are each independently, the same or different, or a lower alkyl group, an aryl group or an aralkyl group which is optionally substituted with one to three of the same or different substituent(s) selected from the group consisting of a hydrogen atom, halogen atom or a substituent represented by the formula  $Y_{3b}-W_{2b}-Y_{4b}-R_{sb}$ , wherein  $R_{sb}$ ,  $W_{2b}$ ,  $Y_{3b}$  and  $Y_{4b}$  have the same meanings as stated above, or a substituent selected from the group consisting of a lower alkyl group, a hydroxy lower alkyl group, a halo lower alkyl group, a lower alkoxy carbonyl amino group, a lower alkoxy carbonyl amino lower alkyl group, a lower alkyl carbamoyl group, a lower alkyl amino group, a lower alkyl amino lower alkyl group, a lower alkanoyl amino group, and an aroyl amino group; and

the formula  $\text{---}$  means a single bond or a double bond.

14. (New) The compound according to claim 11, having a structure of Formula (I-p) or a pharmaceutically acceptable salt thereof,

Formula (I-p)

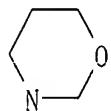


wherein  $\text{Ar}_p$  is a nitrogen-containing heteroaromatic ring group which is optionally substituted, wherein said nitrogen-containing heteroaromatic ring group does not include a quinolyl group,

$\text{X}_p$  is a carbon atom (CH) or a nitrogen atom,

$\text{R}_{1p}$  is a hydrogen atom or a lower alkyl group which is optionally substituted,

$\text{R}_{2p}$  forms, together with the carbon atom on which it is bonded,  $\text{R}_{1p}$  and  $\text{X}_p$ , a saturated six-membered cyclic group of the formula:



and which is fused with a cyclo lower alkyl group,

provided that when  $\text{R}_{2p}$  does not form, together with the binding carbon atom,  $\text{R}_{1p}$  and  $\text{X}_p$ , a saturated or unsaturated five- to six-membered cyclic group,  $\text{Ar}$  is not a substituted thiazolyl group; and

$R_{4p}$  and  $R_{5p}$  are each, the same or different, a hydrogen atom, halogen atom, a hydroxy group, an amino group or a lower alkyl group, an aryl group or an aralkyl group which is optionally substituted.

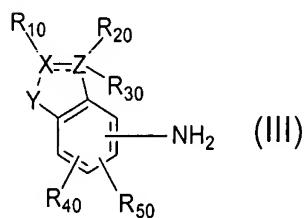
15. (New) The compound according to claim 11, wherein the compound is:

N'-(isoindolino[2,3-b]perhydro-1,4-methano-6,11a-benzoxazin-11-on-7-yl)-N-(pyridin-2-yl)urea,  
N'-(isoindolino[2,3-c]perhydro-5,10a-benzoxazin-10-on-6-yl)-N-(pyridin-2-yl)urea,  
N'-(isoindolino[2,3-c]perhydro-5,10a-benzoxazin-10-on-6-yl)-N-(4-(N-benzylpyrrolidin-3-yl)pyridin-2-yl)urea,  
or  
N'-(isoindolino[2,3-b]perhydro-1,4-methano-6,11a-benzoxazin-11-on-7-yl)-N-(4-(N-benzylpyrrolidin-3-yl)urea.

16. (New) A method of manufacturing a compound of Formula (I) or a pharmaceutically acceptable salt thereof, comprising:

reacting a compound of Formula (III) with a compound of Formula (IV):

Formula (III)



wherein: X and Z are each, the same or different, a carbon atom or a nitrogen atom, or a CH or a nitrogen atom, together with R<sub>10</sub> or R<sub>20</sub> and/or R<sub>30</sub> which bind to X or Z;

Y is a CO, SO or SO<sub>2</sub>;

R<sub>10</sub> is a hydrogen atom or a substituent represented by a formula Y<sub>30</sub>-W<sub>20</sub>-Y<sub>40</sub>-R<sub>s0</sub>, wherein: R<sub>s0</sub> is a hydrogen atom or a lower alkyl group, a lower alkenyl group, a lower alkynyl group, a cyclo lower alkyl group, an aryl group, a heteroaromatic ring group selected from the group consisting of an imidazolyl group, an isoxazolyl group, an isoquinolyl group, an isoindolyl group, an indazolyl group, an indolyl group, an indolydanyl group, an isothiazolyl group, an ethylenedioxophenyl group, an oxazolyl group, a pyridyl group, a pyrazinyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazolyl group, a quinoxalinyl group, a quinolyl group, a dihydroisoindolyl group, a dihydroindolyl group, a thionaphthalenyl group, a naphthyridinyl group, a phenazinyl group, a benzoimidazolyl group, a benzoxazolyl group, a benzothiazolyl group, a benzotriazolyl group, a benzofuranyl group, a thiazolyl group, a thiadiazolyl group, a thienyl group, a pyrrolyl group, a furyl group, a furazanyl group, a triazolyl group, a benzodioxanyl group and a methylenedioxophenyl group,

or

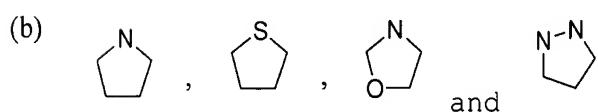
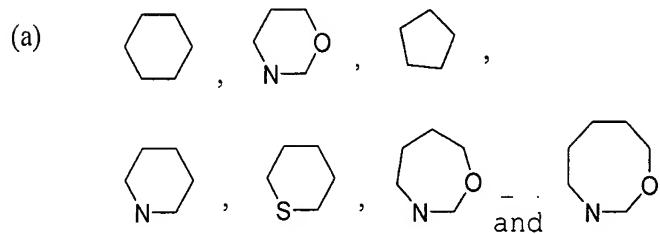
an aliphatic heterocyclic group(s) selected from the group consisting of an isoxazolinyl group, an isoxazolidinyl group, a tetrahydropyridyl group, an imidazolidinyl group, a tetrahydrofuranyl group, a piperazinyl group, a piperidinyl group, a pyrrolidinyl group, a morpholino group, a tetrahydroquinolinyl group and a tetrahydroisoquinolinyl group which may be substituted with one to three of said substituents;

W<sub>20</sub> is a single bond, an oxygen atom, a sulfur atom, SO, SO<sub>2</sub>, NR<sub>t0</sub>, SO<sub>2</sub>NR<sub>t0</sub>, N(R<sub>t0</sub>)SO<sub>2</sub>NR<sub>u0</sub>, N(R<sub>t0</sub>)SO<sub>2</sub>, CH(OR<sub>t0</sub>), CONR<sub>t0</sub>, N(R<sub>t0</sub>)CO, N(R<sub>t0</sub>)CONR<sub>u0</sub>, N(R<sub>t0</sub>)COO, N(R<sub>t0</sub>)CSO, N(R<sub>t0</sub>)COS, C(R<sub>v0</sub>)=CR<sub>r0</sub>, C≡C, CO, CS, OC(O), OC(O)NR<sub>t0</sub>, OC(S)NR<sub>t0</sub>, SC(O), SC(O)NR<sub>t0</sub> and C(O)O, wherein: R<sub>t0</sub> and R<sub>u0</sub> are each a hydrogen atom or a lower alkyl group, an aryl group or an aralkyl group which may be substituted with one to three of substituent(s) selected from the group consisting

of a lower alkyl group, a hydroxyl group which may be protected, a cyano group, halogen atoms, a nitro group, a carboxyl group which may be protected, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group which may be protected, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group which may be protected, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxycarbonyl group, lower alkoxycarbonylamino group, a lower alkoxycarbonylamino lower alkyl group, a lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyloxy group, a lower alkylcarbamoyloxy group, di-lower alkylcarbamoyloxy group, an amino group which may be protected, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group which may be protected, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group which may be protected, and a lower alkoxyimino group, or said substituent(s);

$Y_{30}$  and  $Y_{40}$  are each, the same or different, a single bond or a straight-chain or branched lower alkylene group; or a lower alkyl group which may be substituted with one to three of substituent(s) selected from the group consisting of a lower alkyl group, a hydroxyl group which may be protected, a cyano group, halogen atoms, a nitro group, a carboxyl group which may be protected, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group which may be protected, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group which may be protected, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxycarbonyl group, lower alkoxycarbonylamino group, a lower alkoxycarbonylamino lower alkyl group, a lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyloxy group, a lower alkylcarbamoyloxy group, di-lower alkylcarbamoyloxy group, an amino group which may be protected, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group which may be protected, and a lower alkoxyimino group, or said substituent(s);

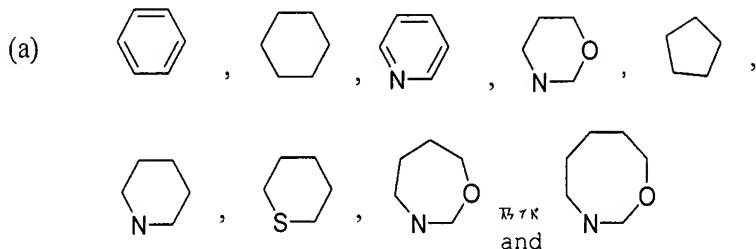
group, a lower alkylsulfonylamino group, a hydroxyimino group which may be protected, and a lower alkoxyimino group,  
 or at least one substituent represented by the formula  $Y_{30}\text{-}W_{20}\text{-}Y_{40}\text{-}R_{s0}$ ,  
 wherein:  $R_{s0}$ ,  $W_{20}$ ,  $Y_{30}$  and  $Y_{40}$  have the same meanings as stated above,  
 or  $R_{10}$  forms a nitrogen atom, together with X;  
 $R_{20}$  and  $R_{30}$  are each independently, the same or different, any of a hydrogen atom, a hydroxy group which may be protected, a lower alkyl group, a lower alkoxy group,  
 or a substituent represented by the formula  $Y_{30}\text{-}W_{20}\text{-}Y_{40}\text{-}R_{s0}$ , wherein:  $R_{s0}$ ,  $W_{20}$ ,  $Y_{30}$  and  $Y_{40}$  have the same meanings as stated above,  
 or either one of  $R_{20}$  and  $R_{30}$  forms, together with  $R_{10}$  and X, a saturated five- to eight-membered cyclic group selected from the group consisting of (a) and (b):



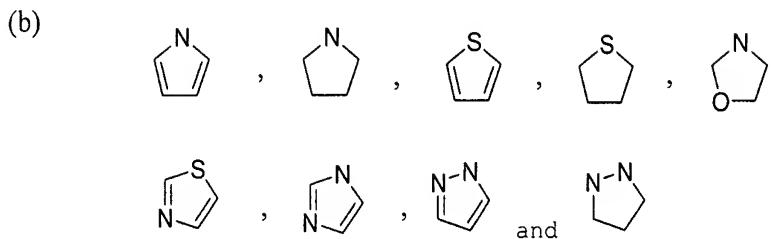
and the other one binds either to a carbon atom or a nitrogen atom on the ring, or to a carbon atom, an oxygen atom and/or a nitrogen atom on the ring-substituent(s) on said ring, to form a five- to seven-membered ring,

or  $R_{20}$  and  $R_{30}$  are combined to form a spiro cyclo alkyl group, or to form, together with Z, on which they stand, an oxo group, or, to form, together with Z on which they stand,  $R_{10}$  and X, a heteroaromatic ring consisting of a saturated or an unsaturated five- to eight-membered cyclic ring

selected from the group consisting of (a) and (b):



and



which may either contain one or more kinds of hetero atoms selected from the group consisting of a nitrogen atom, an oxygen atom and a sulfur atom, or which may be fused with a ring selected from a cyclo lower alkyl group, an aryl group, a heteroaromatic ring group selected from the group consisting of an imidazolyl group, an isoxazolyl group, an isoquinolyl group, an isoindolyl group, an indazolyl group, an indolyl group, an indolydanyl group, an isothiazolyl group, an ethylenedioxypyphenyl group, an oxazolyl group, a pyridyl group, a pyradinyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazolyl group, a quinoxalinyl group, a quinolyl group, a dihydroisoindolyl group, a dihydroindolyl group, a thionaphthenyl group, a naphthyridinyl group, a phenazinyl group, a benzoimidazolyl group, a benzoxazolyl group, a benzothiazolyl group, a benzotriazolyl group, a benzofuranyl group, a thiazolyl group, a thiadiazolyl group, a thienyl group, a pyrrolyl group, a furyl group, a furazanyl group, a triazolyl group, a benzodioxanyl group and a methylenedioxypyphenyl group,

or an aliphatic heterocyclic group(s) selected from the group consisting of an isoxazolinyl group, an

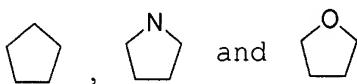
isoxazolidinyl group, a tetrahydropyridyl group, an imidazolidinyl group, a tetrahydrofuranyl group, a tetrahydropyranyl group, a piperazinyl group, a piperidinyl group, a pyrrolidinyl group, a morpholino group, a tetrahydroquinolinyl group and a tetrahydroisoquinolinyl group, which may be substituted with one to three of the same or different substituent(s), selected from the group consisting of a lower alkyl group, a spiro cyclo lower alkyl group which may be substituted, a hydroxyl group which may be protected, a cyano group, halogen atoms, a nitro group, a carboxyl group which may be protected, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group which may be protected, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group which may be protected, a carbamoyl lower alkyl group, a lower alkoxy group, a lower alkoxy carbonyl group, a lower alkoxy carbonylamino group, a lower alkoxy carbonylamino lower alkyl group, a lower alkyl carbamoyl group, a di-lower alkyl carbamoyl group, a carbamoyloxy group, a lower alkyl carbamoyloxy group, di-lower alkyl carbamoyloxy group, an amino group which may be protected, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group which may be substituted, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group which may be protected, and a lower alkoxyimino group,

or at least one substituent(s) represented by a formula  $Y_{10}-W_{10}-Y_{20}-R_{p0}$ ,

wherein:  $R_{p0}$  is a hydrogen atom, or a lower alkyl group, a lower alkenyl group, or a lower alkynyl group, which may be substituted with one to three of said substituent(s), or a cyclo lower alkyl group, an aryl group, a heteroaromatic ring group selected from a set of groups consisting of an imidazolyl group, an isoxazolyl group, an isoquinolyl group, an isoindolyl group, an indazolyl group, an indolyl group, an indolydiny group, an isothiazolyl group, an ethylenedioxophenyl group, an oxazolyl group, a pyridyl group, a pyradinyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazolyl group, a quinoxalinyl group, a quinolyl group, a dihydroisoindolyl group, a dihydroindolyl group, a thionaphthenyl group, a naphthyridinyl group, a phenazinyl group, a benzoimidazolyl group, a

benzoxazolyl group, a benzothiazolyl group, a benzotriazolyl group, a benzofuranyl group, a thiazolyl group, a thiadiazolyl group, a thienyl group, a pyrrolyl group, a furyl group, a furazanyl group, a triazolyl group, a benzodioxanyl group and a methylenedioxyphenyl group,

or an aliphatic heterocyclic group(s) selected from the group consisting of an isoxazolinyl group, an isoxazolidinyl group, a tetrahydropyridyl group, an imidazolidinyl group, a tetrahydrofuranyl group, a tetrahydropyranyl group, a piperazinyl group, a piperidinyl group, a pyrrolidinyl group, pyrrolinyl group, a morpholino group, a tetrahydroquinolinyl group and a tetrahydroisoquinolinyl group, which may be substituted with one to three of said substituent(s), or, furthermore, may have on it a bicyclic or tricyclic fused ring which contains a partial structure selected from the group comprising:



$W_{10}$  is a single bond, an oxygen atom, a sulfur atom,  $\text{SO}_2$ ,  $\text{NR}_{q0}$ ,  $\text{SO}_2\text{NR}_{q0}$ ,  $\text{N}(\text{R}_{q0})\text{SO}_2\text{NR}_{r0}$ ,  $\text{N}(\text{R}_{q0})\text{SO}_2$ ,  $\text{CH}(\text{OR}_{q0})$ ,  $\text{CONR}_{q0}$ ,  $\text{N}(\text{R}_{q0})\text{CO}$ ,  $\text{N}(\text{R}_{q0})\text{CONR}_{q0}$ ,  $\text{N}(\text{R}_{q0})\text{COO}$ ,  $\text{N}(\text{R}_{q0})\text{CSO}$ ,  $\text{N}(\text{R}_{q0})\text{COS}$ ,  $\text{C}(\text{R}_{q0})=\text{CR}_{r0}$ ,  $\text{C}\equiv\text{C}$ ,  $\text{CO}$ ,  $\text{CS}$ ,  $\text{OC(O)}$ ,  $\text{OC(O)}\text{NR}_{q0}$ ,  $\text{OC(S)}\text{NR}_{q0}$ ,  $\text{SC(O)}$ ,  $\text{SC(O)}\text{NR}_{q0}$  and  $\text{C(O)O}$ , wherein:  $\text{R}_{q0}$  and  $\text{R}_{r0}$  are each either a hydrogen atom or a lower alkyl group, an aryl group or an aralkyl group which may be substituted with one to three of substituent(s) selected from the group consisting of a lower alkyl group, a cyclo lower alkyl group, a hydroxyl group which may be protected, a cyano group, halogen atoms, a nitro group, a carboxyl group which may be protected, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group which may be protected, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group which may be protected, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxycarbonyl group, lower alkoxycarbonylamino group, a lower alkoxycarbonyl amino lower alkyl group, a lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyloxy group, a lower alkylcarbamoyloxy group, di-lower alkylcarbamoyloxy group, an amino group which may be protected, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group which may be protected, a lower

alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group which may be protected, and a lower alkoxyimino group, or from said substituent(s);

$Y_{10}$  and  $Y_{20}$  are each, the same or different, a single bond or a straight-chain or branched lower alkylene group which may have a bicyclic or tricyclic fused ring;

$R_{40}$  and  $R_{50}$  are each, the same or different, either a hydrogen atom, halogen atoms, a hydroxyl which may be protected, an amino group which may be protected, or a lower alkyl group, an aryl group or an aralkyl group which may be substituted with one to three of the same or different substituents selected from the group consisting of:

one represented by the formula  $Y_{30}-W_{20}-Y_{40}-R_{s0}$ ,

wherein:  $R_{s0}$ ,  $W_{20}$ ,  $Y_{30}$  and  $Y_{40}$  have the same meanings as stated above,

one which may be selected from the group consisting of a lower alkyl group, a cyano group, a nitro group, a carboxyl group which may be protected, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group which may be protected, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group which may be protected, a carbamoyl lower alkyl group, a lower alkoxy group, a lower alkoxy carbonyl group, lower alkoxy carbonyl amino group, a lower alkoxy carbonyl amino lower alkyl group, a lower alkyl carbamoyl group, a di-lower alkyl carbamoyl group, a carbamoyloxy group, a lower alkyl carbamoyloxy group, di-lower alkyl carbamoyloxy group, an amino group which may be protected, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group which may be protected, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower

alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group which may be protected, and a lower alkoxyimino group,

and

one represented by the formula  $Y_{30}\text{-}W_{20}\text{-}Y_{40}\text{-}R_{s0}$ ,

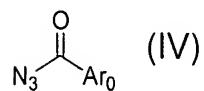
wherein:  $R_{s0}$ ,  $W_{20}$ ,  $Y_{30}$  and  $Y_{40}$  have the same meanings as stated above;

the Formula  $\text{---}$  is a single bond or a double bond,

or

is made to react with a compound represented by Formula (IV)

Formula (IV)



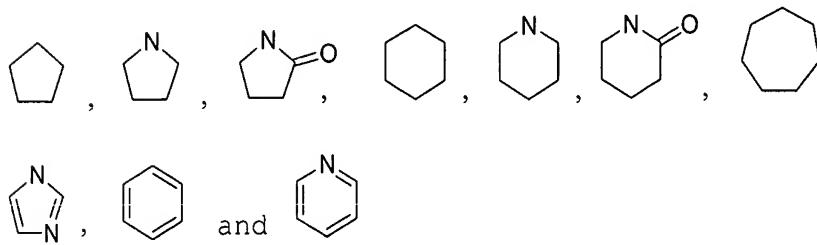
wherein:  $\text{Ar}_0$  is a nitrogen-containing heteroaromatic ring group selected from a set of groups consisting of a pyridyl group, a pyrimidinyl group, a pyradinyl group, a pyridazinyl group, a thiazolyl group, an isothiazolyl group, an oxazolyl group, an isoxazolyl group, a pyrazolyl group, a pyrrolyl group, an imidazolyl group, an indolyl group, an isoindolyl group, a quinolyl group, an isoquinolyl group, a benzothiazolyl group, a benzoxazolyl group, which:

- 1) may be substituted with one to three of the same or different substituent(s) selected from a set of groups a lower alkyl group, a hydroxyl group which may be protected, a cyano group, halogen atoms, a nitro group, a carboxyl group which may be protected, a carbamoyl group, a formyl group, a

lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group which may be protected, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group which may be protected, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxycarbonyl group, lower alkoxycarbonylamino group, a lower alkoxycarbonylamino lower alkyl group, a lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyloxy group, a lower alkylcarbamoyloxy group, di-lower alkylcarbamoyloxy group, an amino group which may be protected, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group which may be protected and a lower alkoxyimino group, or a substituent selected from groups represented by a formula  $Y_{10}\text{-}W_{10}\text{-}Y_{20}\text{-}R_{p0}$  (wherein:  $R_{p0}$ ,  $W_{10}$ ,  $Y_{10}$  and  $Y_{20}$  have the same meanings as stated above);

or

- 2) may have a five- to seven-membered ring selected from a set of groups consisting of:

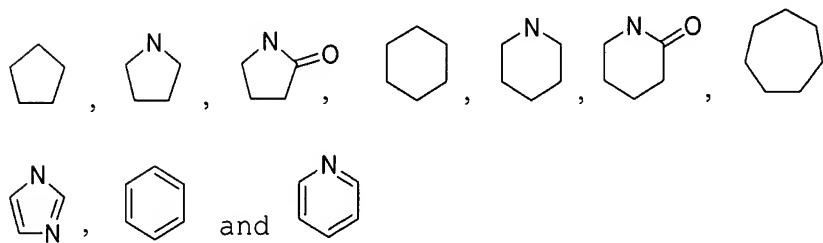


which may be protected, and together with the carbon atom on the ring on which the substituent selected from a set of groups consisting of a lower alkyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group which may be protected, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group which may be protected, a

carbamoyl lower alkyl group, a lower alkoxy group, a lower alkoxycarbonyl group, a lower alkoxycarbonylamino group, a lower alkoxycarbonylamino lower alkyl group, a lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyloxy group, a lower alkylcarbamoyloxy group, a di-lower alkylcarbamoyloxy group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group which may be protected, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkylfulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group and a lower alkanoylamidino lower alkyl group (hereinafter indicated as ring-substituent(s) which may be protected) stands, a carbon atom next to said carbon atom and a carbon atom, an oxygen atom and/or a nitrogen atom on said ring-substituent(s) which may be protected, all taken together;

or

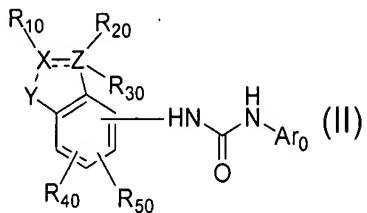
3) may have a five- to seven-membered ring selected from a set of groups consisting of:



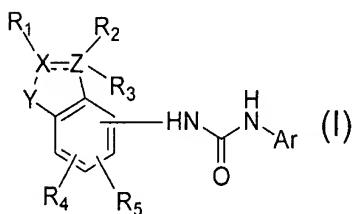
which may be protected, and together with the carbon atom on the ring on which a substituent selected from groups represented by the formula of  $Y_{10}-W_{10}-Y_{20}-R_{p0}$  (wherein:  $Y_{10}, W_{10}, Y_{20}$  and  $R_{p0}$  have the same meanings as stated above) stands, a carbon atom next to said carbon atom and a carbon atom, an oxygen atom and/or a nitrogen atom on said ring-substituent(s) which may be protected, all taken together,

to give a compound of Formula (II)

Formula (II)



wherein  $Ar_0$ ,  $X$ ,  $Y$ ,  $Z$ ,  $R_{10}$ ,  $R_{20}$ ,  $R_{30}$ ,  $R_{40}$  and the Formula  $\equiv$  have the same meanings as stated above, and then, if necessary, removing the protecting group(s), to give a compound of Formula (I) according to claim 11 or a pharmaceutically acceptable salt thereof:

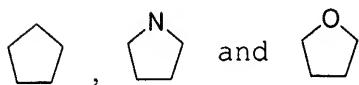


wherein: Ar is a nitrogen-containing heteroaromatic ring group selected from the groups consisting of a pyridyl group, a pyrimidinyl group, a pyradinyl group, a pyridazinyl group, a thiazolyl group, an isothiazolyl group, an oxazolyl group, an isoxazolyl group, a pyrazolyl group, a pyrrolyl group, an imidazolyl group, an indolyl group, an isoindolyl group, a quinolyl group, an isoquinolyl group, a benzothiazolyl group, and a benzoxazolyl group, and said nitrogen-containing heteroaromatic ring group, which:

- 1) may be optionally substituted with one to three of the same or different substituent(s) selected from a set of groups consisting of a lower alkyl group, a hydroxyl group, a cyano group, halogen atoms, a nitro group, a carboxyl group, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxycarbonyl group, lower alkoxycarbonylamino

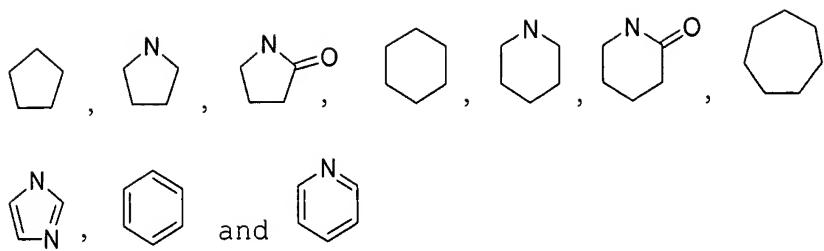
group, a lower alkoxy carbonylamino lower alkyl group, a lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyloxy group, a lower alkylcarbamoyloxy group, di-lower alkylcarbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group and a lower alkoxyimino group, or groups represented by a formula  $Y_1-W_1-Y_2-R_p$  (wherein:  $R_p$  is any of a hydrogen atom, or a lower alkyl group, a lower alkenyl group or a lower alkynyl group which may be substituted with one to three of said substituents, or a cyclo lower alkyl group, an aryl group, or a heteroaromatic ring group selected from a set of groups consisting of an imidazolyl group, an isoxazolyl group, an isoquinolyl group, an isoindolyl group, an indazolyl group, an indolyl group, an indolizinyl group, an isothiazolyl group, an ethylenedioxophenyl group, an oxazolyl group, a pyridyl group, a pyradinyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazolyl group, a quinoxalinyl group, a quinolyl group, a dihydroisoindolyl group, a dihydroindolyl group, a thionaphthalenyl group, a naphthyridinyl group, a phenazinyl group, a benzoimidazolyl group, a benzoxazolyl group, a benzothiazolyl group, a benzotriazolyl group, a benzofuranyl group, a thiazolyl group, a thiadiazolyl group, a thienyl group, a pyrrolyl group, a furyl group, a furazanyl group, a triazolyl group, a benzodioxanyl group and a methylenedioxophenyl group, or an aliphatic heterocyclic group(s) selected from a set of groups consisting of an isoxazolinyl group, an isoxazolidinyl group, a tetrahydropyridyl group, an imidazolidinyl group, a tetrahydrofuranyl group, a tetrahydropyranyl group, a piperazinyl group, a piperidinyl group, a pyrrolidinyl group, pyrrolinyl group, a morpholino group, a tetrahydroquinolinyl group and a tetrahydroisoquinolinyl group, each of which(heteroaromatic ring groups and aliphatic heterocyclic groups) may be substituted with one to three of the same or different said substituent(s), which are same or different, or furthermore, may have (on it) a bicyclic or tricyclic fused ring of a partial structure selected

from a set of groups consisting of:



$W_1$  is a single bond, an oxygen atom, a sulfur atom, SO, SO<sub>2</sub>, NR<sub>q</sub>, SO<sub>2</sub>NR<sub>q</sub>, N(R<sub>q</sub>)SO<sub>2</sub>NR<sub>r</sub>, N(R<sub>q</sub>)SO<sub>2</sub>, CH(OR<sub>q</sub>), CONR<sub>q</sub>, N(R<sub>q</sub>)CO, N(R<sub>q</sub>)CONR<sub>r</sub>, N(R<sub>q</sub>)COO, N(R<sub>q</sub>)CSO, N(R<sub>q</sub>)COS, C(R<sub>q</sub>)=CR<sub>r</sub>, C≡C, CO, CS, OC(O), OC(O)NR<sub>q</sub>, OC(S)NR<sub>q</sub>, SC(O), SC(O)NR<sub>q</sub> and C(O)O (wherein: R<sub>q</sub> and R<sub>r</sub> are each, a hydrogen atom or a lower alkyl group, an aryl group or an aralkyl group, which may be substituted with one to three substituent(s) selected from a set of groups consisting of a lower alkyl group, a cyclo lower alkyl group, a hydroxyl group, a cyano group, halogen atoms, a nitro group, a carboxyl group, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxy carbonyl group, lower alkoxy carbonylamino group, a lower alkoxy carbonylamino lower alkyl group, a lower alkyl carbamoyl group, a di-lower alkyl carbamoyl group, a carbamoyloxy group, a lower alkyl carbamoyloxy group, di-lower alkyl carbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoyl amidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group and a lower alkoxyimino group, or a lower alkyl group, an aryl group or an aralkyl group which may be substituted with one to three of said substituent(s).); Y<sub>1</sub> and Y<sub>2</sub> are each, the same or different, a single bond or a straight-chain or branched lower alkylene group which may have a said bicyclic or tricyclic fused ring);

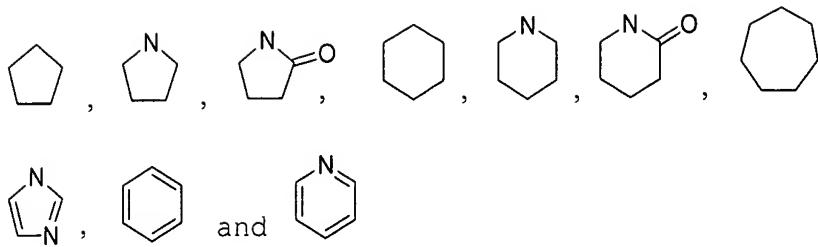
2) may have a five- to seven-membered fused ring selected from a set of groups consisting of:



which may be together with the carbon atom of said nitrogen-containing heteroaromatic cyclic group, on which the substituent, which is selected from a set of groups consisting of consisting of a lower alkyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxycarbonyl group, lower alkoxycarbonylamino group, a lower alkoxycarbonylamino lower alkyl group, a lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyloxy group, a lower alkylcarbamoyloxy group, di-lower alkylcarbamoyloxy group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an arylamino group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, and a lower alkanoylamidino lower alkyl group (hereinafter indicated as ring-substituent) stands, the carbon atom next to said carbon atom, and a carbon atom, an oxygen atom and/or a nitrogen atom on said ring-substituent;

or,

3) may form a five- to seven-membered ring selected from a set of groups consisting of:

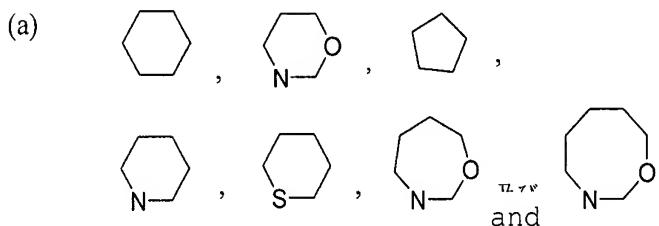


which may be formed from the carbon atom on which a substituent represented by the formula  $Y_1-W_1-Y_2-R_p$  (wherein:  $Y_1$ ,  $W_1$ ,  $Y_2$  and  $R_p$  have the same meanings as stated above) stands, the carbon atom next to said carbon atom, and a carbon atom, an oxygen atom and/or a nitrogen atom on said ring-substituent;  $X$  and  $Z$  are each, the same or different, a carbon atom or a nitrogen atom, or being taken together with  $R_1$  or  $R_2$  and/or  $R_3$  which may exist on  $X$  and  $Z$ , forms a CH or a nitrogen atom;  $Y$  is CO, SO or  $SO_2$ ;

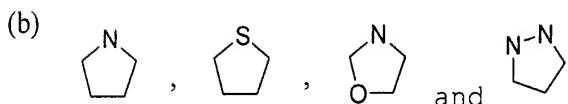
$R_1$  is any of a hydrogen atom or a substituent represented by a formula  $Y_3-W_2-Y_4-R_s$  (wherein:  $R_s$  is any of a hydrogen atom or a lower alkyl group, a lower alkenyl group, a lower alkynyl group, a cyclo lower alkyl group, an aryl group, and a heteroaromatic ring group which is selected from a set of groups consisting of an imidazolyl group, an isoxazolyl group, an isoquinolyl group, an isoindolyl group, an indazolyl group, an indolyl group, an indolizinyl group, an isothiazolyl group, an ethylenedioxyphenyl group, an oxazolyl group, a pyridyl group, a pyradinyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazolyl group, a quinoxalinyl group, a quinolyl group, a dihydroisoindolyl group, a dihydroindolyl group, a thionaphthenyl group, a naphthyridinyl group, a phenazinyl group, a benzoimidazolyl group, a benzoxazolyl group, a benzothiazolyl group, a benzotriazolyl group, a benzofuranyl group, a thiazolyl group, a thiadiazolyl group, a thienyl group, a pyrrolyl group, a furyl group, a furazanyl group, a triazolyl group, a benzodioxanyl group and a methylenedioxyphenyl group, or an aliphatic heterocyclic group selected from a set of groups consisting of an isoxazolinyl group, an isoxazolidinyl group, a tetrahydropyridyl group, an imidazolidinyl group, a tetrahydrofuranyl group, a piperazinyl group, a piperidinyl group, a pyrrolidinyl group, pyrrolinyl group, a morpholino group, a tetrahydroquinolinyl group and a tetrahydroisoquinolinyl group, all of which may be substituted

with one to three of said substituent(s); W<sub>2</sub> is a single bond, an oxygen atom, a sulfur atom, SO, SO<sub>2</sub>, NR<sub>t</sub>, SO<sub>2</sub>NR<sub>t</sub>, N(R<sub>t</sub>)SO<sub>2</sub>NR<sub>u</sub>, N(R<sub>t</sub>)SO<sub>2</sub>, CH(OR<sub>t</sub>), CONR<sub>t</sub>, N(R<sub>t</sub>)CO, N(R<sub>t</sub>)CONR<sub>u</sub>, N(R<sub>t</sub>)COO, N(R<sub>t</sub>)CSO, N(R<sub>t</sub>)COS, C(R<sub>v</sub>)=CR<sub>r</sub>, C≡C, CO, CS, OC(O), OC(O)NR<sub>t</sub>, OC(S)NR<sub>t</sub>, SC(O), SC(O)NR<sub>t</sub> and C(O)O (wherein: R<sub>t</sub> and R<sub>u</sub> are each a hydrogen atom or a substituent selected from a set of groups consisting of a lower alkyl group, a hydroxyl group, a cyano group, halogen atoms, a nitro group, a carboxyl group, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxy carbonyl group, lower alkoxy carbonylamino group, a lower alkoxy carbonylamino lower alkyl group, a lower alkyl carbamoyl group, a di-lower alkyl carbamoyl group, a carbamoyloxy group, a lower alkyl carbamoyloxy group, di-lower alkyl carbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group and a lower alkoxyimino group, or a lower alkyl group, an aryl group or an aralkyl group which may be substituted with one to three of said substituent(s)); Y<sub>3</sub> and Y<sub>4</sub> are each, the same or different, a single bond or a straight-chain or branched lower alkylene group), or R<sub>1</sub> is a lower alkyl group which may be substituted with one to three of the same or different substituent(s) which is selected from a set of groups consisting of a lower alkyl group, a hydroxyl group, a cyano group, halogen atoms, a nitro group, a carboxyl group, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxy carbonyl group, lower alkoxy carbonylamino group, a lower alkoxy carbonylamino lower alkyl group, a lower alkyl carbamoyl group, a di-lower alkyl carbamoyl group, a carbamoyloxy group, a lower alkyl carbamoyloxy group, di-lower alkyl carbamoyloxy group, an amino group, a lower

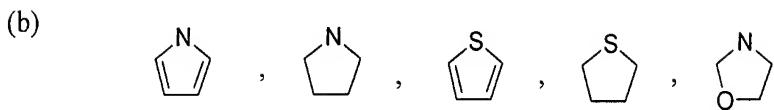
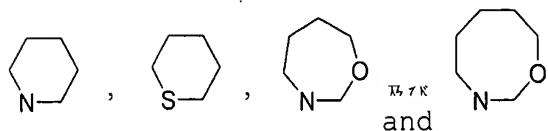
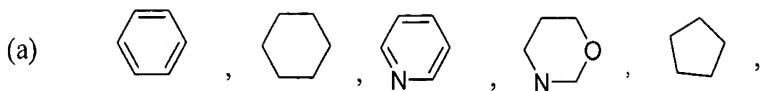
alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group and a lower alkoxyimino group, or a substituent or substituents selected from groups represented by the formula  $Y_3-W_2-Y_4-R_s$  (wherein:  $R_s$ ,  $W_2$ ,  $Y_3$  and  $Y_4$  have the same meanings as stated above), or  $R_1$  forms a nitrogen atom together with  $X$ ;);  $R_2$  and  $R_3$  are each independently, the same or different, a hydrogen atom, a hydroxy group, a lower alkyl group, a lower alkoxy group, or a substituent represented by the formula  $Y_3-W_2-Y_4-R_s$  (wherein:  $R_s$ ,  $W_2$ ,  $Y_3$  and  $Y_4$  have the same meanings as stated above), or either one of  $R_2$  or  $R_3$  forms, together with  $R_1$  and  $X$ , a saturated five- to eight-membered cyclic group selected from sets of groups of (a) and (b):



and



and the another one of  $R_2$  or  $R_3$  binds to a carbon atom or a nitrogen atom on the ring, or to a carbon atom, an oxygen atom and/or nitrogen atom on said ring-substituent to form a five- to seven-membered ring, or  $R_2$  and  $R_3$  are combined to form a spiro cyclo lower alkyl group, or are together furthermore with  $Z$  to which they bind to form an oxo (keto, or carbonyl) group, or they ( $R_2$  and  $R_3$ ) form, together with  $Z$ ,  $R_1$  and  $X$ , on which they stand, a saturated or an unsaturated five- to eight membered cyclic group which may be selected from sets of groups of (a) and (b):



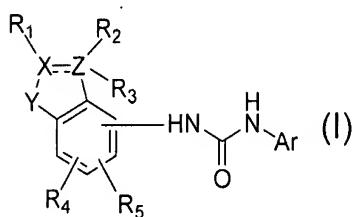
which may contain one or more kinds of hetero atom(s) selected from a group of a nitrogen atom, an oxygen atom and a sulfur atom, or which may be fused with any of a cyclo lower alkyl group, an aryl group, a heteroaromatic ring group selected from a set of groups consisting of an imidazolyl group, an isoxazolyl group, an isoquinolyl group, an isoindolyl group, an indazolyl group, an indolyl group, an indolydanyl group, an isothiazolyl group, an ethylenedioxyphenyl group, an oxazolyl group, a pyridyl group, a pyradinyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazolyl group, a quinoxalinyl group, a quinolyl group, a dihydroisoindolyl group, a dihydroindolyl group, a thionaphthalenyl group, a naphthyridinyl group, a phenazinyl group, a benzoimidazolyl group, a benzoxazolyl group, a benzothiazolyl group, a benzotriazolyl group, a benzofuranyl group, a thiazolyl group, a thiadiazolyl group, a thienyl group, a pyrrolyl group, a furyl group, a furazanyl group, a triazolyl group, a benzodioxanyl group and a methylenedioxyphenyl group, or an aliphatic heterocyclic group(s) selected from a set of groups consisting of an isoxazolinyl group, an isoxazolidinyl group, a tetrahydropyridyl group, an imidazolidinyl group, a tetrahydrofuranyl group, a tetrahydropyranyl group, a piperazinyl group, a piperidinyl group, a pyrrolidinyl group, pyrrolinyl group, a morpholino group, a tetrahydroquinolinyl group and a tetrahydroisoquinolinyl group, which may be substituted with one to three of the same or different substituent(s) selected from a set of groups consisting of a lower alkyl group, a spiro cyclo lower alkyl group which may be substituted, a

hydroxyl group, a cyano group, halogen atoms, a nitro group, a carboxyl group, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxycarbonyl group, lower alkoxycarbonylamino group, a lower alkoxycarbonylamino lower alkyl group, a lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyloxy group, a lower alkylcarbamoyloxy group, di-lower alkylcarbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group and a lower alkoxyimino group, and a substituent or substituents selected from groups represented by the formula  $Y_1-W_1-Y_2-R_p$  (wherein:  $R_p$ ,  $W_1$ ,  $Y_1$  and  $Y_2$  have the same meanings as stated above);  $R_4$  and  $R_5$  are each, the same or different, a hydrogen atom, halogen atoms, a hydroxy group, an amino group, or a substituent represented by the formula  $Y_3-W_2-Y_4-R_s$  (wherein:  $R_s$ ,  $W_2$ ,  $Y_3$  and  $Y_4$  have the same meanings as stated above), or any of a lower alkyl group, an aryl group or an aralkyl group which may be substituted with one to three of the same or different substituent(s) selected from both a set of groups consisting of a lower alkyl group, a cyano group, a nitro group, a carboxyl group, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxycarbonyl group, lower alkoxycarbonylamino group, a lower alkoxycarbonylamino lower alkyl group, a lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyloxy group, a lower alkylcarbamoyloxy group, di-lower alkylcarbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower

alkylsulfonylamino group, a hydroxyimino group and a lower alkoxyimino group, and groups represented by the formula  $Y_3-W_2-Y_4-R_s$  (wherein:  $R_s$ ,  $W_2$ ,  $Y_3$  and  $Y_4$  have the same meanings as stated above); and the formula  $\equiv$  represents either a single bond or a double bond.

17. (New) A method of preparing a compound of Formula (I) or a pharmaceutically acceptable salt thereof:

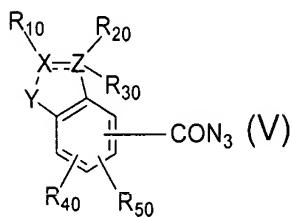
Formula (I)



wherein: Ar, X, Y, Z, R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and the formula  $\equiv$  have the same meanings as stated above, comprising:

reacting a compound represented by Formula (V):

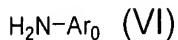
Formula (V)



wherein: X, Y, Z, R<sub>10</sub>, R<sub>20</sub>, R<sub>30</sub>, R<sub>40</sub>, R<sub>50</sub> and the formula  $\equiv$  have the same meanings as stated above,

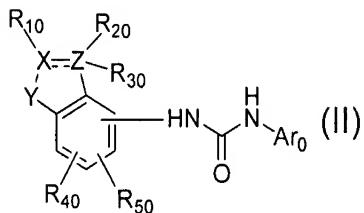
with a compound represented with Formula (VI):

Formula (VI)



wherein:  $\text{Ar}_0$  have the same meanings as stated above,  
to give a compound of Formula (II):

Formula (II)

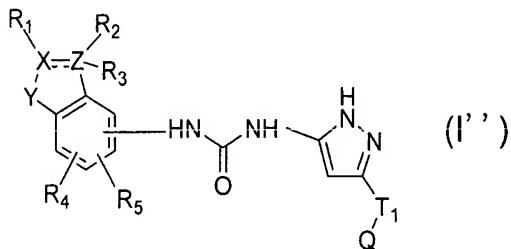


wherein:  $\text{Ar}_0$ , X, Y, Z, R<sub>10</sub>, R<sub>20</sub>, R<sub>30</sub>, R<sub>40</sub>, R<sub>50</sub> and the formula  $\text{---}$  have the same meanings as stated above

and then, by removing, if necessary, the protective group(s).

18. (New) A method for preparing a compound of Formula (I''):

Formula (I'')

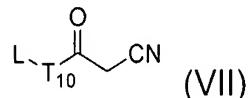


wherein: T<sub>1</sub> is any of a single bond or a straight-chain or branched lower alkylene, an aryl group, a heterocyclic ring group, an aliphatic heterocyclic group, and an Ar which has a convertible functional group(s) including or an aralkyl group; Q is W<sub>1</sub>-Y<sub>2</sub>-R<sub>p</sub> (wherein: W<sub>1</sub>, Y<sub>2</sub> and R<sub>p</sub> have the

same meanings as stated above), X, Y, Z, R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and the formula — have the same meanings as stated above, or a salt thereof, comprising:

providing a compound of a formula (VII):

Formula (VII)



wherein:  $L$  is a reactive substituent which may be protected, and may have a functional group which can be converted into other functional group,  $T_{10}$  is any of a single bond or , if appropriate, a straight-chain or branched lower alkylene group which may have a protected substituent(s), an aryl group, a heteroaromatic ring group, an aliphatic heterocyclic group, and an  $Ar_0$  which has a convertible functional group including an aralkyl group,

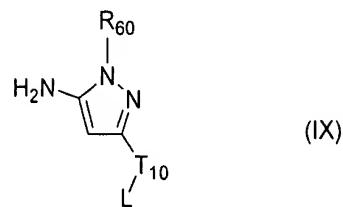
reacting with a compound of a formula (VIII):

Formula (VIII)



wherein:  $R_{60}$  is a hydrogen atom or a protective group for an amino group,  
to obtain a compound of a formula (IX):

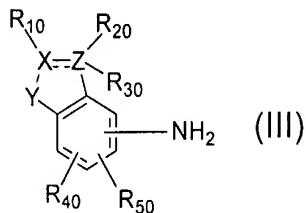
Formula (IX)



wherein:  $T_{10}$ ,  $R_{60}$  and  $L$  have the same meanings as stated above,  
and then

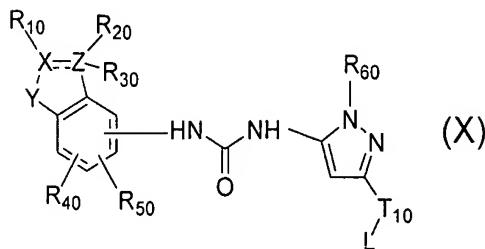
reacting said compound with a compound of a Formula (III):

Formula (III)



wherein:  $X$ ,  $Y$ ,  $Z$ ,  $R_{10}$ ,  $R_{20}$ ,  $R_{30}$ ,  $R_{40}$ ,  $R_{50}$  and the formula  $---$  have the same meanings as stated above] and one of reactive derivatives of formate ester, if necessary, in the presence of a base to give a compound of a formula (X):

Formula (X)



wherein:  $X$ ,  $Y$ ,  $Z$ ,  $T_{10}$ ,  $R_{10}$ ,  $R_{20}$ ,  $R_{30}$ ,  $R_{40}$ ,  $R_{50}$ ,  $R_{60}$  and the formula  $=$  have the same meanings as stated above,

and subjecting the compound obtained to transformation reaction of the substituent  $L$  and/or removal of the protective group.

19. (New) A pharmaceutical composition comprising a therapeutically effective amount of the compound of claim 11 or a pharmaceutically acceptable salt thereof together with a pharmaceutically acceptable additive.
20. (New) A method for inhibiting cyclin dependent kinase, which comprises administering a therapeutically effective amount of the compound of claim 11 or a pharmaceutically acceptable salt thereof to a patient in need thereof.